## PATENT COOPERATION TREATY **PCT**

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# INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

| Applicant's or agent's file reference JIM/PL/2032046-190901/rc                                                                                                                                                                                                                                                          | FOR FURTHER ACT                                                                                                                                                           | OR FURTHER ACTION See Form PCT/IPEA/416         |                                                 |  |  |  |  |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|-------------------------------------------------|--|--|--|--|--|
| International application No. PCT/SG2005/000042                                                                                                                                                                                                                                                                         | International filing date 17 February 2005                                                                                                                                | (day/month/year)                                | Priority date (day/month/year) 20 February 2004 |  |  |  |  |  |
| International Patent Classification (IPC) or national classification and IPC                                                                                                                                                                                                                                            |                                                                                                                                                                           |                                                 |                                                 |  |  |  |  |  |
| Int. Cl.                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                           |                                                 |                                                 |  |  |  |  |  |
| <b>B64D 11/00</b> (2006.01) <b>B64D 11/06</b> (2006.01)                                                                                                                                                                                                                                                                 |                                                                                                                                                                           |                                                 |                                                 |  |  |  |  |  |
| Applicant SINGAPORE AIRLINES LIMITED et al                                                                                                                                                                                                                                                                              |                                                                                                                                                                           |                                                 |                                                 |  |  |  |  |  |
| 1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.                                                                                                        |                                                                                                                                                                           |                                                 |                                                 |  |  |  |  |  |
| 2. This REPORT consists of a total of 3                                                                                                                                                                                                                                                                                 | sheets, including this cov                                                                                                                                                | er sheet.                                       |                                                 |  |  |  |  |  |
| 3. This report is also accompanied by ANN                                                                                                                                                                                                                                                                               | NEXES, comprising:                                                                                                                                                        |                                                 |                                                 |  |  |  |  |  |
| a. $X$ (sent to the applicant and to the                                                                                                                                                                                                                                                                                | International Bureau) a t                                                                                                                                                 | total of 21 sheets, a                           | s follows:                                      |  |  |  |  |  |
| x sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).                                                                 |                                                                                                                                                                           |                                                 |                                                 |  |  |  |  |  |
| sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.                                                                                 |                                                                                                                                                                           |                                                 |                                                 |  |  |  |  |  |
| b. (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)), containing a sequence listing and/or table related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions). |                                                                                                                                                                           |                                                 |                                                 |  |  |  |  |  |
| 4. This report contains indications relating                                                                                                                                                                                                                                                                            |                                                                                                                                                                           |                                                 |                                                 |  |  |  |  |  |
| X Box No. I Basis of the repor                                                                                                                                                                                                                                                                                          | t '                                                                                                                                                                       |                                                 |                                                 |  |  |  |  |  |
| Box No. II Priority                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                           |                                                 |                                                 |  |  |  |  |  |
| Box No. III Non-establishmer                                                                                                                                                                                                                                                                                            | nt of opinion with regard t                                                                                                                                               | to novelty, inventive                           | step and industrial applicability               |  |  |  |  |  |
| Box No. IV Lack of unity of i                                                                                                                                                                                                                                                                                           | nvention                                                                                                                                                                  |                                                 |                                                 |  |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                         | Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |                                                 |                                                 |  |  |  |  |  |
| Box No. VI Certain document                                                                                                                                                                                                                                                                                             | es cited                                                                                                                                                                  |                                                 | <i>"</i>                                        |  |  |  |  |  |
| Box No. VII Certain defects in                                                                                                                                                                                                                                                                                          | Box No. VII Certain defects in the international application                                                                                                              |                                                 |                                                 |  |  |  |  |  |
| Box No. VIII Certain observations on the international application                                                                                                                                                                                                                                                      |                                                                                                                                                                           |                                                 |                                                 |  |  |  |  |  |
| Date of submission of the demand                                                                                                                                                                                                                                                                                        | D                                                                                                                                                                         | Date of completion of this report               |                                                 |  |  |  |  |  |
| 1 August 2005                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                           | 13 June 2006                                    |                                                 |  |  |  |  |  |
| Name and mailing address of the IPEA/AU                                                                                                                                                                                                                                                                                 |                                                                                                                                                                           | Authorized Officer                              |                                                 |  |  |  |  |  |
| AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA                                                                                                                                                                                                                                                          |                                                                                                                                                                           |                                                 |                                                 |  |  |  |  |  |
| E-mail address: pct@ipaustralia.gov.au Facsimile No. (02) 6285 3929                                                                                                                                                                                                                                                     |                                                                                                                                                                           | ZBIGNIEW BIELAWSKI Telephone No. (02) 6283 2218 |                                                 |  |  |  |  |  |

# INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/SG2005/000042

| Вох | Sox No. I Basis of the report                         |                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |  |  |
|-----|-------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|
| 1.  | With regard to the language, this report is based on: |                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |  |  |
|     | X                                                     | The international application in the language in which it was filed                                                                                                                                                                                                                                                                                              |  |  |  |  |  |
|     |                                                       | A translation of the international application into , which is the language of a translation furnished for the purposes of:                                                                                                                                                                                                                                      |  |  |  |  |  |
|     |                                                       | international search (under Rules 12.3(a) and 23.1 (b))                                                                                                                                                                                                                                                                                                          |  |  |  |  |  |
|     |                                                       | publication of the international application (under Rule 12.4(a))                                                                                                                                                                                                                                                                                                |  |  |  |  |  |
|     |                                                       | international preliminary examination (Rules 55.2(a) and/or 55.3(a))                                                                                                                                                                                                                                                                                             |  |  |  |  |  |
| 2.  | furn                                                  | With regard to the elements of the international application, this report is based on (replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):  the international application as originally filed/furnished |  |  |  |  |  |
|     | $\overline{\mathbf{x}}$                               | the description:                                                                                                                                                                                                                                                                                                                                                 |  |  |  |  |  |
|     | ш.                                                    | pages 1-15, 19, as originally filed/furnished                                                                                                                                                                                                                                                                                                                    |  |  |  |  |  |
|     |                                                       | pages* 16-18, 20-27 received by this Authority on 15 May 2006 with the letter of 15 May 2006 pages* received by this Authority on with the letter of                                                                                                                                                                                                             |  |  |  |  |  |
| -   | X                                                     | the claims:                                                                                                                                                                                                                                                                                                                                                      |  |  |  |  |  |
|     |                                                       | pages as originally filed/furnished                                                                                                                                                                                                                                                                                                                              |  |  |  |  |  |
|     |                                                       | pages* as amended (together with any statement) under Article 19 pages* 28-37 received by this Authority on 15 May 2006 with the letter of 15 May 2006 pages* received by this Authority on with the letter of                                                                                                                                                   |  |  |  |  |  |
| -   | X                                                     | the drawings:                                                                                                                                                                                                                                                                                                                                                    |  |  |  |  |  |
|     |                                                       | pages 1/34-34/34 as originally filed/furnished  pages* received by this Authority on with the letter of  pages* received by this Authority on with the letter of                                                                                                                                                                                                 |  |  |  |  |  |
|     |                                                       | a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.                                                                                                                                                                                                                                                              |  |  |  |  |  |
| 3.  |                                                       | The amendments have resulted in the cancellation of:                                                                                                                                                                                                                                                                                                             |  |  |  |  |  |
|     |                                                       | the description, pages                                                                                                                                                                                                                                                                                                                                           |  |  |  |  |  |
|     |                                                       | the claims, Nos.                                                                                                                                                                                                                                                                                                                                                 |  |  |  |  |  |
|     |                                                       | the drawings, sheets/figs                                                                                                                                                                                                                                                                                                                                        |  |  |  |  |  |
|     |                                                       | the sequence listing (specify):                                                                                                                                                                                                                                                                                                                                  |  |  |  |  |  |
|     |                                                       | any table(s) related to the sequence listing (specify):                                                                                                                                                                                                                                                                                                          |  |  |  |  |  |
| 4.  |                                                       | This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).                                                                                                            |  |  |  |  |  |
|     |                                                       | the description, pages                                                                                                                                                                                                                                                                                                                                           |  |  |  |  |  |
|     |                                                       | the claims, Nos.                                                                                                                                                                                                                                                                                                                                                 |  |  |  |  |  |
|     |                                                       | the drawings, sheets/figs                                                                                                                                                                                                                                                                                                                                        |  |  |  |  |  |
|     |                                                       | the sequence listing (specify):                                                                                                                                                                                                                                                                                                                                  |  |  |  |  |  |
|     |                                                       | any table(s) related to the sequence listing (specify):                                                                                                                                                                                                                                                                                                          |  |  |  |  |  |
| *   | Ij                                                    | f item 4 applies, some or all of those sheets may be marked "superseded."                                                                                                                                                                                                                                                                                        |  |  |  |  |  |

### INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/SG2005/000042

| Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applica | ability; |
|-----------|-----------------------------------------------------------------------------------------------------|----------|
|           | citations and explanations supporting such statement                                                |          |

| 1. | 1. Statement                  |          |                                  |     |  |  |
|----|-------------------------------|----------|----------------------------------|-----|--|--|
|    | Novelty (N)                   | Claims 2 | 2-16, 21-26, 28-34, 37-44, 46-64 | YES |  |  |
|    | •                             | Claims 1 | 1, 17-20, 27, 35-36, 45          | NO  |  |  |
|    | Inventive step (IS)           | Claims 8 | 3-10, 21-26, 33-34               | YES |  |  |
|    |                               | Claims 1 | 1-7, 11-20, 27-32, 35-64         | NO  |  |  |
|    | Industrial applicability (IA) | Claims 1 | 1-64                             | YES |  |  |
|    |                               | Claims   |                                  | NO  |  |  |

### 2. Citations and explanations (Rule 70.7)

#### Novelty (N) Claims 1, 17-20, 27, 35-36, 45

The invention defined in claims 1 and 18 is not novel when compared with the following prior art documents that each discloses all the essential features of the invention claimed:

US 6152400 A

US 5024398 A

US 2092655 A

GB 2362095 A.

For example see in US 6152400 compartments C1-C4 (fig. 16) each having a door opening into the cross-aisle (66). Each cabin can include a single bed, recliner, or other upscale amenities for use by passengers.

Furthermore, the features added by appended claims 17, 27, 35-36, 45 are disclosed in the US 6152400, and the features added by appended claims 35-36, 45 are disclosed in the GB 2362095.

The invention defined in claims 18-20, 27, 35-36 is not novel when compared with the following prior art document that discloses all the essential features of the invention claimed: JP 9202230. This document discloses a private passenger compartment (1) suitable for a "passenger during an aircraft flight" that comprises a foldable chair (8) and being configurable to relaxation, work and sleep compartment.

#### Inventive Step (IS) Claims 1-7, 11-20, 27-32, 35-64

The appended claims lack an inventive step because the features defined in these claims are either: 1) disclosed in the above cited art (i.e. GB 2362095 discloses the features of the interior row of the compartments comprising a plurality of pairs of length-wise extending compartments having the doorways on opposite sides of the row – as seen in figure 2 - defined in claim 12; and a removable wall as defined in claim 13 at page 9, line 17 – page 10, line 2) which when combined as it would have been obvious for the person skilled in the art render the claimed invention non-inventive or 2) are merely matters of design choice when the general technical knowledge about the state of the art in the making of passenger compartments (not limited to aircrafts) is used (that is involve only routine skills in the art) and hence they cannot contribute to patentable invention.

passengers in the compartments 5.

The aisles 51 are formed as curved aisles. The curved aisles contribute to the overall appearance of the cabin.

The curved aisles are formed by forming the doorway walls 7b as convex walls as viewed from the aisles 51 and by staggering positions of the compartments 5 so that the doorways 9 of the compartments 5 on opposite sides of the aisles 51 are not aligned.

More preferably the compartments 5 are staggered so that the doorways 9 of the compartments on one side of the aisles 51 face the doorway walls 7b on the other side of the aisles 51, and vice versa.

As is indicated above, forming the doorway walls 7b as curved walls as viewed from the aisles 51 means that there is additional space in these sections of the compartments 5 for housing furniture in the compartments 5. This is an advantage because it makes it possible to make more efficient use of the available space within the compartments 5.

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The doorway walls 7b have windows 17 on both sides of the doorways 9. The windows 17 have retractable blinds 22 so that the passenger occupants can selectively create an open compartment which facilitates visual interaction with other compartments 5 in the cabin or a more private closed compartment 5.

Each compartment 5 comprises a sliding door assembly for closing the doorway 9.

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The sliding door assembly of each compartment 5 comprises a pair of doors 23 that are mounted for sliding

movement between retracted positions in which the doors are located in frames (not shown) in the doorway walls 7b and closed positions in which the doors 23 extend across the doorway 9 and close the compartment 5.

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With reference to Figure 4, each door 23 has a window 27. The arrangement of the doors 23 and the windows 17 in the doorway walls 7b is such that the windows 27 of the doors 23 overlap the windows 17 in the doorway walls 7b when the doors are in the retracted positions and thereby do not interrupt the view through the windows 17.

With reference to Figure 3, the sliding door
assembly also includes retractable blinds 24 on the doors
23 so that the passengers can selectively create an open
or a more closed private compartment. The blinds 24 are
shown in a closed position in Figure 3.

Each private passenger compartment 5 houses an extensive range of furniture required by passengers, particularly on long-haul flights.

The furniture comprises a chair 31, a cadenza 33, a table assembly 35 housed in the cadenza 33, a bi-fold bed 30 stored in one of the end walls 7a, and a seat 37 located within the compartment space.

The furniture is designed and arranged to be interactive so that the furniture can be selectively arranged in a number of different functional configurations as may be required by passengers, particularly on long-haul flights.

The chair 31 is located to one side of the doorway and is positioned against the end wall 7a on that side of the doorway 9, the seat 37 is located to the other

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side of the doorway 9 and is positioned against the end wall 7a on that side of the doorway 9, the cadenza 33 is located against the wall opposite the doorway 9, the table assembly 35 is housed in the cadenza 33 and is movable between a storage position within the cadenza and an operative position with a table of the table assembly 35 extending horizontally into a space between the chair 31 and the seat 37, and the bed 30 is foldable between a storage position in the end wall 7a (Figure 7) and a horizontal sleeping position within the compartment space.

The chair 31 is multi-functional. Specifically, the chair 31 is foldable between an upright position for a person to sit in the chair and a folded down position in which the chair 31 forms a support for the bed 30.

The chair 31 is specifically shaped to define a bedside table 41 when the chair is in the support position.

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The seat 37 and the cadenza 33 also define supports for the bed 30. The cadenza 33 is positioned so that it can be moved vertically between a raised position in which the cadenza 33 is at a convenient height to be accessed by a person seated in the chair 31 and a lowered position in which the cadenza 33 forms a bed support.

The above-described compartment 5 is a compact and efficient use of space by virtue of the arrangement of the furniture in the compartment 5 which provides a passenger with a range of functional options for the use of the compartment 5 without the compartment appearing to be cramped.

35 By way of particular example, the construction of the chair 31 to be a foldable chair that can be used as a support for the bed 30 makes it possible to locate the

sufficiently large size to accommodate business suits etc in a free-hanging form.

Figures 17 to 19 illustrate an embodiment of a service table 61 that is adapted to be positioned on the bedside table 41 of the chair 31 when the chair is in the folded down position. The service table 61 provides convenient access for a passenger in the bed 30. The service table 61 is generally U shaped and includes legs 63 extending from a platform 65.

The cadenza 33 includes a series of storage compartments and an in-built vanity unit and other features, as illustrated in Figures 15 and 16.

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In addition, each compartment 5 includes provision for a baby bassinet 66 and storage shelving 67 within the end walls 7a of the compartment. This feature is illustrated in Figure 12.

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Each compartment 5 also includes a series of standard utilities, such as control units 25, as illustrated in Figures 13 and 14.

- In the embodiment of the cabin shown in Figures 20 to 39, the cabin comprises 3 rows 111a, 111b, 111c of compartments 105 arranged in a length-wise extending direction of the aircraft.
- The two outer rows 111a, 111c are positioned along opposite sides of the aircraft with the aircraft side walls 115 forming compartment walls.
- The central row 111b is positioned between and is separated from the outer rows 111a, 111b by length-wise extending aisles 151.

The positions of the compartments 105 are staggered so that the doorways 109 of the compartments 105 on opposite sides of the aisles do not directly face each other. This feature enhances the privacy of the compartments.

The doorway walls 117b are formed as louvered walls so that the passenger occupants can selectively create an open compartment which facilitates visual interaction with other compartments in the cabin or a more private closed compartment.

Each compartment 105 comprises a sliding door assembly for closing the doorway 109.

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The sliding door assembly comprises an upper rail 154 and a curtain 155 supported by the rail.

The rail 154 is mounted for sliding movement

20 between a retracted position in which the rail is located
in the doorway wall 107b on one side of the doorway 109
and an operative, ie closed, position in which the rail
155 extends across and blocks the doorway 109.

25 The curtain 155 is arranged to fold in a concertina fashion. Accordingly, the curtain 155 folds against the doorway wall 107 when the rail 154 is slid into the retracted position and the curtain 155 expands and closes the doorway 109 when the rail 154 is in the operative position.

The sliding door assembly also comprises a member (not shown) on the opposite side of the doorway 109 that is adapted to retain the rail in the operative position.

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Each private passenger compartment 105 houses basic functional furniture required by passengers,

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particularly on long-haul flights.

The furniture comprises a chair 121, a work desk 126, a table assembly 125, and a seat 128 located within the compartment space.

As with the previous embodiment, the furniture is designed and arranged to be interactive with each other so that the furniture can be selectively arranged in a number of different functional configurations as may be required by passengers, particularly on long-haul flights.

More specifically, the furniture is designed and arranged to be movable between a range of positions to reconfigure the compartment space.

As with the previous embodiment, the configurations comprise relaxation, work, entertainment, and sleep configurations.

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More specifically, the private compartment 105 in Figures 20 to 38 comprises the following combination of furniture: (a) a chair 121 in one corner of the compartment, (b) a bench seat 128 adjacent a wall opposite the chair when the chair is in a take-off position and facing in a forward travel direction of the aircraft, (c) a work desk 126 adjacent a wall that is in a lengthwise-extending direction of the aircraft, (d) a table assembly 125 movable between a storage position against the same wall as the work desk 126 and an operative position with a table of the table assembly 125 extending horizontally in a space between the chair 121 and the seat 128, and (e) a bed 129 movable between a raised storage position and a lowered operative position on the work desk.

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The chair 121 is arranged so that it can swivel between a range of positions. For example, the chair 121

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can be positioned in an aircraft take-off position so that a person in the chair faces a forward travel direction of the aircraft, as shown in Figures 20, 24, and 25. In addition, the chair 121 can be positioned so that the person faces the work desk 126, as shown in Figure 22 (the rearward compartment shown in the figure).

The chair 121 is an adjustable chair, with a chair back, seat and foot-rest that can be placed in a range of positions to meet passenger requirements. The chair may be of a conventional construction.

Figure 27 shows the table assembly 125 in an operative position.

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With reference particularly to Figure 27, the table assembly 125 comprises a table 144 that has a central panel and two side wings 146 that can be folded onto the central panel.

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The table assembly 125 also comprises a base member 147 that, when mounted in a compartment, is supported for sliding movement between the storage position adjacent the compartment side wall and the operative position between the chair 121 and the seat 128. The base member 147 is in the form of a straight-sided rectangular cabinet that defines a storage compartment. The base member 147 is supported for sliding movement in a compartment by a track assembly, identified in part by the rail 143 mounted to and extending rearwardly from the base member.

The table assembly 125 also comprises a support arm 138 that interconnects the table 144 and the base member 147 and facilitates moving the table 144 from the storage position to the operative position.

The support arm 138 is pivotally mounted at a lower end to a forward part of an upper section of the base member 147.

The support arm 138 is also pivotally mounted at an upper end to an underside of the table 144. The support arm 138 is foldable between a storage position in which the support arm 138 (and the table 144) lies flat on top of the base member 147 and an operative position in which the support arm 138 is angled forwardly (as shown in Figures 27 and 29).

The support arm 138 is coupled to the base member 147 so that it can not pivot forward beyond the operative position shown in Figures 27 and 29.

The support arm 138 comprises a V-shaped channel member 145 near the upper end thereof which acts as a support element for the table 144 and supports an underside of the table 144 when the table assembly is in the operative position with the table 144 in the horizontal position.

The above-described table assembly 125 can be

moved from the storage position to the operative position
by sliding the base member 147 outwardly from the storage
position, lifting the table 144 upwardly and inwardly into
the compartment space and thereby pivoting the support arm
138 upwardly and inwardly into the compartment space until
the table 144 is in the horizontal operative position.

As is indicated above, the compartment is multifunctional and the basic furniture can be positioned in a range of configurations. This feature is illustrated, by way of example, in Figures 28 to 39.

Figure 28 illustrates one configuration of the

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private passenger compartment 105. In this configuration the table assembly 125 is in the operative position in which the table 144 of the table assembly 125 is in an unfolded position in a space between the chair 121 and the seat 128. In this configuration the compartment is multifunctional and can be used for a range of purposes. For example, the table assembly 125 can be used as a meals table for supporting one or more meals delivered to the compartment to be eaten by the single passenger occupant of the compartment or the passenger and a "visiting" passenger. Alternatively, the table assembly 125 can be used as a work desk by the single passenger or the passenger and a "visiting" passenger and a "visiting" passenger.

Figure 29 illustrates a first step to transform the compartment from the configuration shown in Figure 28 to an alternative configuration.

In the first step shown in Figure 29 the wings 20 146 of the table 144 are folded inwardly onto the central panel of the table 144.

With reference to Figures 30 and 31, in a second step the table 144 is lifted upwardly and outwardly (in relation to the interior of the compartment space) toward the aircraft side wall 115 to pivot the table 144 and the support arm 138 into the folded position shown in Figure 12 in which the table 144 and the support arm 138 overlie and are supported by the base member 147.

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Thereafter, the base member 147 of the table assembly 125 is slid from the operative position shown in Figure 31, in which the base member extends into the space between the chair 121 and the seat 128, and the storage position shown in Figure 32, in which the base member 147 is located against the aircraft side wall 115.

The final step in the transformation sequence involves sliding a cover member 162 over the stored table assembly 125 to provide a flat working surface.

In the configuration shown in Figure 33 the compartment is multi-functional. By way of example, the single passenger occupant may be seated in the chair 121 or on the seat 128 and relax or work, as required. When seated on the chair 121 the passenger may conveniently view the visual display screen 148.

Figure 34 illustrates an intermediate position of the bed 129 in a first step to transform the configuration shown in Figure 33 to a "sleeping" configuration.

This step comprises lowering the bed 129 from the raised position shown in Figure 14 to the lowered position shown in Figure 35.

Figure 35 illustrates the bed 129 supported by the work desk 126 in the lowered position of the bed 129.

Figure 36 illustrates the compartment in the sleeping configuration with a person on the bed 129 and the visual display screen 148 pivoted to a position in which the person on the bed can view the screen while in a reclining position.

Figure 37 illustrates a first step to transform

30 the compartment from the "sleeping" configuration shown in
Figure 17 to a "working" configuration.

The first step involves swiveling the chair 121 from the forward position shown in Figure 36 to a working position shown in Figure 37 in which a person seated in the chair is facing towards the aircraft side wall 115.

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Figure 38 illustrates a subsequent step of raising the bed 129 from the lowered position to the raised position shown in the figure. This step enables access to the work desk 126.

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The work desk 126 is vertically adjustable so that a person seated in the chair 121 can adjust the height as required to suit personal preferences.

- Figure 38 illustrates the work desk in one raised position and Figure 39 illustrates the work desk in a lowered position.
- Many modifications may be made to the embodiments of the cabin and the private passenger compartment described above without departing from the spirit and scope of the invention.
- By way of example, whilst the embodiments of the cabin comprise 3 rows 11a, 11b, 11c and 111a, 111b and 111c of private passenger compartments 5 and 105 respectively separated by respective aisles 51 and 151, the invention is not so limited and extends to any suitable arrangement of the compartments 5 and 105.

#### CLAIMS:

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- 1. An aircraft cabin that comprises a plurality of "private" passenger compartments for passengers during an aircraft flight, with each compartment comprising walls that define a compartment space and being accessible via a doorway in one of the walls, and with each compartment at least comprising a chair for a passenger.
- The cabin defined in claim 1 wherein the compartment walls are at least 1.5 m high.
  - 3. The cabin defined in claim 2 wherein the compartment walls are at least 1.6 m high.
- 4. The cabin defined in any one of the preceding claims comprises at least 3 rows of the compartments extending in a length-wise extending direction of the aircraft, with adjacent rows being separated by length-wise extending aisles, and with: (a) two outer rows being positioned along opposite sides of the aircraft with the aircraft side walls forming compartment walls, and (b) at least one internal row being positioned between the outer rows and separated from at least one outer row by a said length-wise extending aisle.
  - 5. The cabin defined in claim 4 wherein the doorway walls define the aisles and the compartments are accessible from the aisles via the doorways.
  - 6. The cabin defined in claim 4 or claim 5 wherein the doorways divide the doorway walls into two sections, with one section on each side of each doorway.
- 35 7. The cabin defined in claim 6 wherein the doorways are positioned centrally in the doorway walls.

- 8. The cabin defined in any one of claims 4 to 7 wherein the aisles are curved aisles along the length thereof.
- 9. The cabin defined in claim 8 wherein the curved aisles are formed by forming the doorway walls as curved walls on both sides of the aisles and by positioning the compartments so that the doorways of the compartments on opposite sides of the aisles are not aligned whereby the doorways face the doorway walls on the opposite sides of the aisles.
- 10. The cabin defined in claim 9 wherein the compartments are positioned so that the doorways of the compartments on one side of the aisles face the doorway walls on the other side of the aisles, and vice versa.
- 11. The cabin defined in any one of claims 4 to 10 wherein the walls that form the two outer rows of the compartments comprise (a) the aircraft side walls, (b) walls that extend inwardly from the aircraft side walls, and (c) the doorway walls.
- 12. The cabin defined in any one of claims 4 to 11
  25 wherein the or each interior row of the compartments
  comprises a plurality of pairs of length-wise extending
  compartments, with the doorways of the compartments of
  each pair providing access to the compartments from aisles
  on opposite sides of the interior row.
  - 13. The cabin defined in claim 12 wherein the compartments of at least one pair of compartments is separated by a length-wise extending wall that is a removable wall, whereby the pair of compartments may be converted into a double compartment by removing the removable wall.

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- 14. The cabin defined in claim 13 wherein each compartment of the at least one of the pair of compartments comprises single beds that can be moved from storage positions to sleep positions that are in side-by-side relationship when the compartment is converted into the double compartment so as to form a double bed.
- 15. The cabin defined in any one of claims to 4 to 14 comprises a plurality of wardrobes in walls of the compartments that separate adjacent compartments in the rows of compartments.
- 16. The cabin defined in claim 15 wherein the wardrobes include wardrobes that are mounted for sliding movement between storage positions in the walls and operative positions in which the wardrobes extend into the aisles and are accessible from the aisles.
- 17. The cabin defined in any one of the preceding claims wherein each compartment includes doors for the doorways so that the compartments can be completely enclosed spaced when the doors are closed.
- 18. A private passenger compartment for a passenger during an aircraft flight that comprises walls that define a compartment space, a doorway in one of the walls that enables access to the compartment from an aisle, and a chair and other basic furniture located in the compartment space in an interactive way so that the furniture can be selectively arranged in a number of different configurations.
  - 19. The compartment defined in claim 18 wherein the compartment walls are at least 1.5 m high.
  - 20. The compartment defined in claim 19 wherein the compartment walls are at least 1.6 m high.

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- 21. The compartment defined in any one of claims 18 to 20 includes two opposed side walls and two opposed end walls that interconnect the side walls and defined the compartment space, with the doorway being positioned in one of the side walls and dividing the side wall into two sections, with one section on each side of the doorway.
- 22. The compartment defined in claim 21 wherein the doorway is positioned centrally in the doorway wall.
- 23. The compartment defined in claim 21 or claim 22 wherein the sections of the doorway wall are curved, for example by being convex as viewed from the aisle, so that the compartment is wider in these sections of the compartment than in the region of the doorway.
  - 24. The compartment defined in claim 23 wherein the doorway wall includes at least one window.
  - 25. The compartment defined in claim 24 wherein the doorway wall includes at least two windows, with at least one window in each section of the doorway wall.
- 25 26. The compartment defined in claim 25 wherein the windows include retractable blinds that can be closed.
  - 27. The compartment defined in any one of claims 18 to 26 includes a door assembly for closing the doorway.
- 28. The compartment defined in claim 27 wherein the door assembly comprises a door mounted for sliding movement from a retracted position within the doorway wall to a closed position in which the door extends across the doorway and closes the compartment.
  - 29. The compartment defined in claim 28 wherein the

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door assembly comprises a pair of doors mounted for sliding movement inwardly towards each other from retracted positions within the sections of the doorway walls that are on opposite sides of the doorway.

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- 30. The compartment defined in any one of claim 29 wherein the doors include transparent windows that are positioned so that the view through the windows in the doorway walls is not obscured by the doors when the doors are in the retracted positions.
- 31. The compartment defined in claim 30 wherein the doors include retractable blinds that can be closed when the doors are in the closed positions.

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- 32. The compartment defined in claim 27 wherein the door assembly comprises an upper rail and a curtain supported by the rail.
- 20 33. The compartment defined in claim 32 wherein the rail is mounted for sliding movement between a retracted position within the doorway wall and an operative, ie closed, position in which the rail extends across the doorway.

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- 34. The compartment defined in claim 33 wherein the curtain is adapted to fold in a concertina fashion so that (a) the curtain folds against the doorway wall when the rail is slid into the retracted position and (b) the curtain expands and closes the doorway when the rail is in the operative position.
- 35. The compartment defined in any one of claims 18 to 34 wherein the configurations of the compartment comprise relaxation, work, and sleep configurations.
  - 36. The compartment defined in any one of claims 18

to 35 wherein, in addition to the chair, the other basic furniture of the compartment comprises any one or more of a table assembly, a cadenza that houses the table assembly when the table assembly is in a folded position, a seat, and a bed.

- 37. The compartment defined in claim 36 wherein the bed is foldable from a storage position in one of the compartment walls to a sleep position within the compartment.
- 38. The compartment defined in claim 37 wherein the chair is foldable from an operative position in which a person can sit upright in the chair to an inoperative position in which the folded chair defines a support for the bed when the bed is in the sleep position.
- 39. The compartment defined in claim 38 wherein the chair defines a bedside table when the chair is in the inoperative position.
  - 40. The compartment defined in any one of claims 37 to 39 wherein the seat is adapted to define a support for the bed when the bed is in the sleep position.
  - 41. The compartment defined in any one of claims 37 to 40 wherein the cadenza is adapted to define a support for the bed when the bed is in the sleep position.
- 30 42. The compartment defined in claim 41 wherein the cadenza is movable from a raised operative position in which the cadenza can be accessed conveniently by a passenger seated in the chair to a lowered bed support position.
  - 43. The compartment defined in any one of claims 36 to 42 wherein the table assembly is housed in the cadenza

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so that it can be moved, for example by being swivelled, from a stored position within the cadenza to an operative position with a table of the table assembly extending horizontally into the compartment proximate the chair.

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- 44. The compartment defined in any one of claims 36 to 42 wherein an interactive combination of the furniture in the compartment space comprises: (a) the chair to one side of the doorway, (b) the seat to the other side of the doorway, (c) the cadenza against the wall opposite the doorway, and (d) the table assembly housed in the cadenza and movable between a stored position within the cadenza and an operative position with a table of the table assembly extending horizontally into a space between the chair and the seat.
- 45. The compartment defined in any one of claims 18 to 35 wherein, in addition to the chair, the other basic furniture of the compartment comprises any one or more of a work desk, a table assembly, a seat, a bed and a visual display system of an entertainment system.
- 46. The compartment defined in claim 45 wherein an interactive combination of the basic furniture in the compartment space comprises: (a) the chair in one corner of the compartment space, (b) the work desk along at least a part of one wall of the compartment and proximate the chair, (c) the table assembly movable between a stored position adjacent one wall of the compartment and an operative position with a table of the table assembly extending horizontally proximate the chair.
- 47. The compartment defined in claim 46 comprises the bed movable between a raised storage position and a lowered sleep position on the work desk.
  - 48. The compartment defined in claim 46 or 47

comprises the seat adjacent at least a part of one wall of the compartment.

- 49. The compartment defined in any one of claims 46 to 48 wherein the work desk and the seat are positioned adjacent different walls of the compartment.
- 50. The compartment defined in claim 45 wherein an interactive combination of the basic furniture in the compartment space comprises: (a) the chair in one corner of the compartment space, (b) the seat adjacent one wall of the compartment, (c) the table assembly movable between a stored position adjacent one wall of the compartment and an operative position with a table of the table assembly extending horizontally proximate the chair.
- 51. The compartment defined in claim 45 wherein an interactive combination of the basic furniture in the compartment space comprises: (a) the chair in one corner of the compartment space, (b) the bed movable between a raised storage position and a lowered sleep position, (c) the table assembly movable between a stored position adjacent one wall of the compartment and an operative position with a table of the table assembly extending horizontally proximate the chair.
- 52. The compartment defined in claim 45 wherein an interactive combination of the basic furniture in the compartment space comprises: (a) the chair in one corner of the compartment space, (b) the seat adjacent a an wall opposite the chair when the chair is in a take-off position, (c) the work desk adjacent a wall that is in a lengthwise-extending direction of the aircraft, (d) the table assembly movable between a stored position adjacent the same wall as the work desk and an operative position with a table of the table assembly extending horizontally in a space between the chair and the seat, and (e) the bed

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movable between a raised storage position and a lowered sleep position on the work desk.

- 53. The compartment defined in claim 52 wherein the work desk and the table assembly are located adjacent the wall that is opposite the wall that defines the doorway.
- 54. The compartment defined in claim 53 wherein the work desk defines a support platform for the bed and supports the bed when the bed is in the sleep position.
  - 55. The compartment defined in claims 54 wherein the bed is stored in the raised position in the compartment space and is moveable down to the lowered sleep position on the platform and is supported by the platform in the lowered position.
- 56. The compartment defined in any one of claims 52 to 55 wherein the work desk and the table assembly are positioned in relation to the chair when the table assembly is in the operative position so that the chair can be swiveled between positions facing the work desk and the table assembly.
- 25 57. The compartment defined in any one of claims 52 to 56 wherein a work platform of the work desk is vertically adjustable to accommodate different requirements of different passengers.
- 30 58. The compartment defined in claim 57 wherein the stored position of the table assembly is adjacent the work desk.
- 59. The compartment defined in claim 57 wherein the stored position of the table assembly is within the space occupied by the work desk.

- to 59 wherein the table assembly comprises: (a) a base member that can slide between the stored position adjacent the side wall and the operative position between the chair and the seat, (b) a support arm pivotally mounted to the base member and foldable between the storage position and the operative position, and (c) a table pivotally mounted to the support arm.
- 10 61. The compartment defined in claim 60 wherein the table assembly can be moved from the stored position to the operative position by sliding or otherwise moving the base member outwardly from the stored position, lifting the table upwardly and inwardly into the compartment space and thereby pivoting the support arm upwardly and inwardly into the compartment space until the table is in the horizontal operative position.
- 52. The compartment defined in claim 61 wherein the support arm comprises a table support element that is positioned to support an underside of the table when the table assembly is the operative position with the table in the horizontal position.
- 25 63. The compartment defined in claim 62 wherein the table comprises side wings that can be folded between an inward storage position and an outward operative position.
- 64. The compartment defined in claim 63 wherein the 30 base member defines a storage compartment.